AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in this application:

LISTING OF CLAIMS:

Claims 1 to 17. (Canceled).

18. (Previously Presented) An arrangement for controlling a shape of a stent body comprising an electrical circuit for establishing an electrical current flow through the stent for heating the stent to cause the stent to shift from a martensite phase to an austenite phase thereby changing the shape of the stent body, the electrical circuit further being adapted to monitor a phase change of the stent from the martensite phase to the austenite phase and to control the flow of electrical current through the stent as a function of the phase change of the stent from the martensite phase to the austenite phase.

19. (Previously Presented) The arrangement of claim 18, wherein the electrical circuit includes a device for sensing a change in voltage across the stent to indicate the phase change.

20. (Previously Presented) The arrangement of claim 18, wherein the electrical circuit includes a device for sensing a change in current through the stent to indicate the phase change.

21. (Previously Presented) The arrangement of claim 19, wherein the electrical circuit further includes a device for cutting off the supply of electrical current to the stent immediately upon sensing the change in voltage.

22. (Previously Presented) The arrangement of claim 20, wherein the electrical circuit further includes a device for cutting off the supply of electrical current to the stent immediately upon sensing the change in current.

23. (Previously Presented) The arrangement of claim 19, wherein the electrical circuit further includes a device for cutting off the supply of electrical current to the stent a predetermined time interval after sensing the change in voltage.

24. (Previously Presented) The arrangement of claim 20, wherein the electrical circuit further includes a device for cutting off the supply of electrical current to the stent a predetermined time interval after sensing the change in current.

25. (Previously Presented) The arrangement of claim 18, wherein the electrical circuit comprises at least one resistance therein selected as a function of a resistivity of the stent.

26. (Previously Presented) The arrangement of claim 18, wherein the electrical circuit comprises at least one resistance therein selected as a function of a thermal conductance of the stent.

27. (Previously Presented) An arrangement for controlling a shape of a stent body, comprising:

an electrical circuit adapted to establish an electrical current flow through the stent to heating the stent to cause the stent to shift from a martensite phase to an austenite phase to thereby change the shape of the stent body, the electrical circuit further adapted to monitor a phase change of the stent from the martensite phase to the austenite phase and to control the flow of electrical current through the stent as a function of the phase change of the stent from the martensite phase to the austenite phase.

28. (Previously Presented) A system, comprising:

a stent; and

an arrangement configured to control a shape of a stent body of the stent, the arrangement including an electrical circuit adapted to establish an electrical current flow through the stent to heating the stent to cause the stent to shift from an martensite phase to an austenite phase to thereby change the shape of the stent body, the electrical circuit further adapted to monitor a phase change of the stent and

to control the flow of electrical current through the stent as a function of the monitor of the phase change of the stent.

29. (Previously Presented) The system of claim 28, wherein the electrical circuit includes a device adapted to sense a change in voltage across the stent to indicate the phase change.

30. (Previously Presented) The system of claim 28, wherein the electrical circuit includes a device adapted to sense a change in current through the stent to indicate the phase change.

31. (Previously Presented) The system of claim 29, wherein the electrical circuit includes a device configured to cut off the supply of electrical current to the stent immediately upon sense of the change in voltage.

32. (Previously Presented) The system of claim 30, wherein the electrical circuit includes a device configured to cut off the supply of electrical current to the stent immediately upon a sense of the change in current.

33. (Previously Presented) The system of claim 29, wherein the electrical circuit includes a device adapted to cut off the supply of electrical current to the stent a predetermined time interval after a sense of the change in voltage.

34. (Previously Presented) The system of claim 30, wherein the electrical circuit includes a device adapted to cut off the supply of electrical current to the stent a predetermined time interval after a sense of the change in current.

35. (Previously Presented) The system of claim 28, wherein the electrical circuit includes at least one resistance selected as a function of a resistivity of the stent.

36. (Previously Presented) The system of claim 28, wherein the electrical circuit includes at least one resistance selected as a function of a thermal conductance of the stent.

37. (Previously Presented) The arrangement of claim 18, wherein the electrical circuit is adapted to monitor the phase change of the stent in accordance with an abrupt change of at least one of (a) a resistivity of the stent and (b) a thermal conductivity of the stent.

38. (Previously Presented) The arrangement of claim 18, wherein the stent is formed of a shape memory material.

39. (Previously Presented) The arrangement of claim 18, wherein the stent is formed of nitinol.

40. (New) The system of claim 28, wherein the electrical circuit is adapted to monitor the phase change of the stent in accordance with an abrupt change of at least one of (a) a resistivity of the stent and (b) a thermal conductivity of the stent.

41. (New) The system of claim 28, wherein the stent is formed of a shape memory material.

42. (New) The system of claim 28, wherein the stent is formed of nitinol.